lenovo

D1960 Wide LCD Monitor
User's Guide

TABLE OF CONTENTS

About This Guide

This guide describes the monitor's features, setup, and operation. Information in this document is subject to change without notice.

The sections are as follows:

• Safety Instructions: lists safety information.

• Setup: describes the initial setup process.

• Using the Monitor: gives an overview of how to use the monitor.

• Technical Support : provides tips and solutions for common problems.

• Product Information: lists the technical specifications of the monitor.

National Conventions

The following subsections describe notational conventions used in this document.

Notes, Cautions, and Warnings

Throughout this guide, blocks of text may be accompanied by an icon and printed in bold type or in italic type. These blocks are notes, cautions, and warnings, and they are used as follows:

NOTE: A NOTE indicates important information that helps you make better use of your computer system

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem

WARNING: A WARNING indicates the potential for bodily harm and tells you how to avoid the problem

Some warnings may appear in alternate formats and may be unaccompanied by an icon. In such cases, the specific presentation of the warning is mandated by regulatory authority.

FCC Notice

FCC Class B Radio Frequency Interference Statement WARNING: (FOR FCC CERTIFIED MODELS)

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

NOTICE :
1. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2. Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.

3. The manufacturer is not responsible for any radio or TV interference caused by unauthorized modification to this equipment. It is there sponsibilities of the user to correct such interference.

4. The LCD screen has effective pixels of 99.99% or more. It may include blemishes of 0.01% or less such as a missing pixel or a pixel lit all of the time.

WEEE Declaration

Disposal of Waste Equipment by Users in Private Household in the European Union.

This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste .Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product .

Hg Declaration

(Hg) SAFETY: Lamp Disposal

LAMP(S) INSIDE THIS PRODUCT CONTAIN MERCURY AND MUST BE RECYCLED OR DISPOSED OF ACCORDING TO LOCAL, STATE OR FEDERAL LAWS. FOR MORE INFORMATION, CONTACT THE ELECTRONIC INDUSTRIES ALLIANCE AT WWW.EIAE.ORG.

Precautions

WARNING: Use of controls, adjustments, or procedures other than those specified in this documentation may result in exposure to shock, electrical hazards, and/or mechanical hazards

Read and follow these precautions when connecting and using your computer monitor:

PRECAUTIONS

- Do not use the monitor near water, e.g. near a bathtub, washbowl, kitchen sink, laundry tub, swimming pool or in a wet basement.
- Do not place the monitor on an unstable cart, stand, or table. If the monitor falls, it can injure a person and cause serious damage to the appliance. Use only a cart or stand recommended by the manufacturer or sold with the monitor. If you mount the monitor on a wall or shelf, use a mounting kit approved by the manufacturer and follow the kit instructions.
- Slots and openings in the back and bottom of the cabinet are provided for ventilation. To ensure reliable operation of the monitor and to protect it from overheating, be sure these openings are not blocked or covered. Do not place the monitor on a bed, sofa, rug, or similar surface. Do not place the monitor near or over a radiator or heat register. Do not place the monitor in a bookcase or cabinet unless proper ventilation is provided.
- The monitor should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.
- The monitor is equipped with a three-pronged grounded plug, a plug with a third (grounding) pin. This plug will fit only into a grounded power outlet as a safety feature. If your outlet does not accommodate the three-wire plug, have an electrician install the correct outlet, or use an adapter to ground the appliance safely. Do not defeat the safety purpose of the grounded plug.
- Unplug the unit during a lightning storm or when it will not be used for long periods of time. This will protect the monitor from damage due to power surges.
- Do not overload power strips and extension cords. Overloading can result in fire or electric shock.
- Never push any object into the slot on the monitor cabinet. It could short circuit parts causing a fire or electric shock. Never spill liquids on the monitor.
- Do not attempt to service the monitor yourself; opening or removing covers can expose you to dangerous voltages and other hazards. Please refer all servicing to qualified service personnel.
- To ensure satisfactory operation, use the monitor only with UL listed computers which have appropriate configured receptacles marked between 100 - 240V AC, Min. 5A.
- The wall socket shall be installed near the equipment and shall be easily accessible.
- For use only with the attached power adapter (Output 12Vdc) which have UL,CSA listed license(Only for monitors with power adapter).
- Please make sure to clean the cabinet regularly with the provided cloth , you can use soft-cleanser to clean the stain , instead of severe spray cleanser which will cauterize the monitor cabinet.
- Don't leak liquid into monitor which will result in the damage of chassis or component. Please unplug before cleaning ,and do not scratch the screen with hard things.
- For displays with glossy bezels the user should consider the placement of the display as the bezel may cause disturbing reflections from surrounding light and bright surfaces.

Setup the stand and base

Please setup or remove the base following below steps.
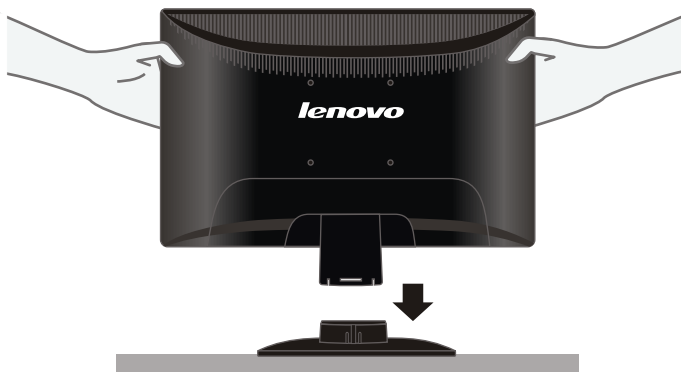
Adjusting Viewing Angle

• For optimal viewing it is recommended to look at the full face of the monitor, then adjust the monitor's angle to your own preference.

• Hold the stand so you do not topple the monitor when you change the monitor's angle.

• You are able to adjust the monitor's angle from -5°to 20 °.
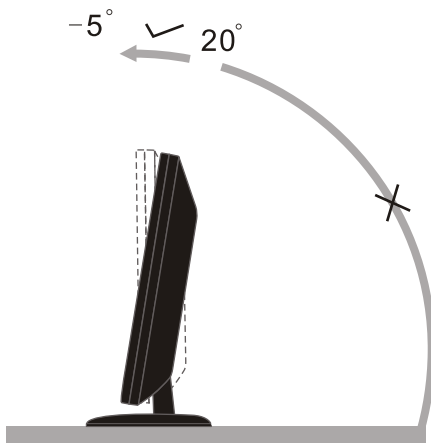
NOTE: Do not touch the LCD screen when you change the angle. It may cause damage or break the LCD screen.

Attaching the Cables

Cable Connections On Back of Monitor and Computer

1. Power Cord

2. Audio Cable

3. DVI Cable

4. Analog Cable

Turn off your computer before performing the procedure below.

1. Connect the power cable to the AC port on the back of the monitor.

2. Connect one end of the 15-pin D-Sub cable to the back of the monitor and connect the other end to the computer's D-Sub port.

3. (Optional – Requires a video card with DVI port) - Connect one end of the 24-pin DVI cable to the back of the monitor and connect the other end to the computer's DVI port.

4. Plug audio cable between the computer multimedia (or sound) card's audio output and monitor's audio input.

5. Turn on your monitor and computer.

If your monitor displays an image, installation is complete. If it does not display an image, see Troubleshooting.

Wall Mounting

Preparing to Install An Optional Wall Mounting Arm
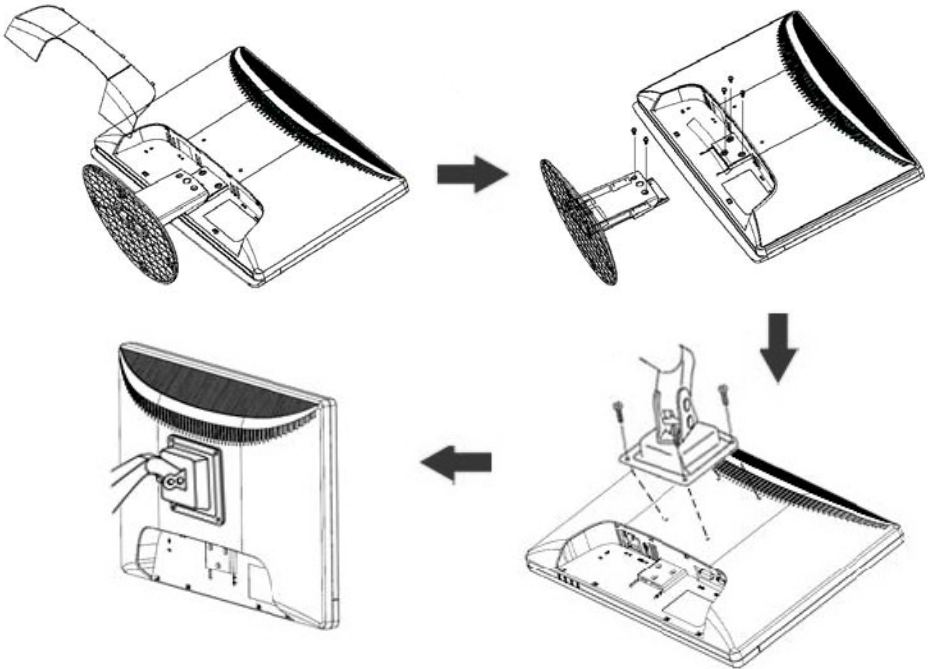
This monitor can be attached to a wall mounting arm you purchase separately. Disconnect power before this procedure. Follow these steps:

1. Remove the base.

2. Follow the manufacturer's instructions to assemble the wall mounting arm.

3. Place the wall mounting arm onto the back of the monitor. Line up the holes of the arm with the holes in the back of the monitor.

4. Insert the 4 screws into the holes and tighten.

5. Reconnect the cables. Refer to the user's manual that came with the optional wall mounting arm for instructions on attaching it to the wall.

Noted : VESA mounting screw holes are not available for all models, please check with the dealer or the reseller nearest your house.

Setting the Optimal Resolution

The recommended resolution for this monitor is 1366 by 768. To setup the monitor to this resolution, follow the steps below.

1. Click START.

2. Click SETTINGS.

3. Click CONTROL PANEL.

4. Double click DISPLAY.

5. Click SETTINGS.

6. Set the resolution SLIDE-BAR to 1366 by 768.

External Controls

Press the power button to turn the monitor on or off. The other control knobs are located at front panel of the monitor (See Figure). By changing these settings, the picture can be adjusted to your personal preferences.
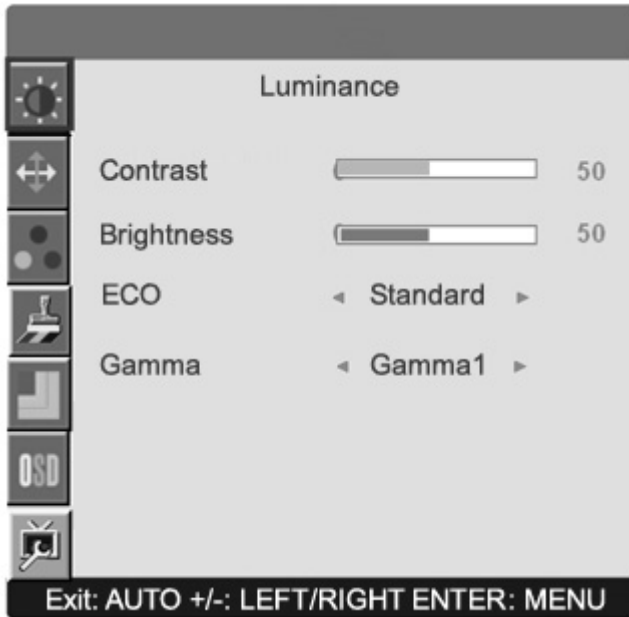
* The power cord should be connected.

* Press the power button to turn on the monitor. The power indicator will light up.

1 2 3 4 5
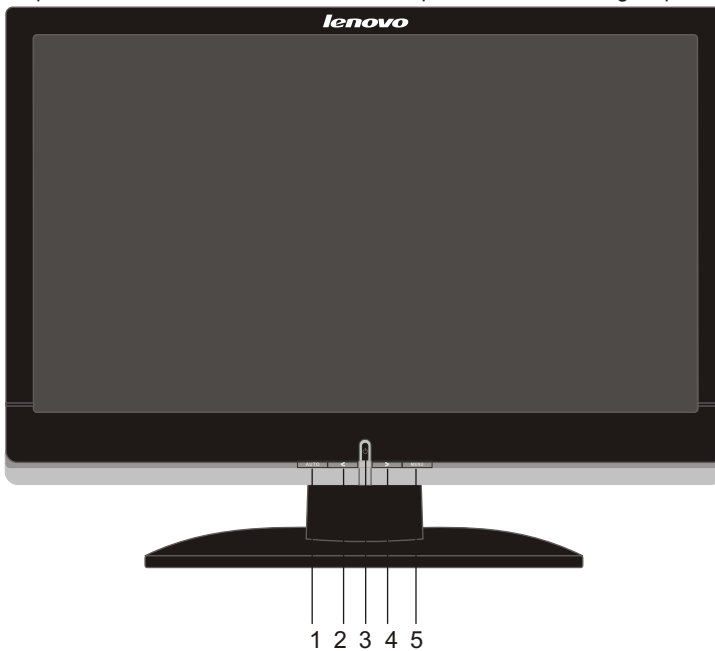
1 Auto / Exit
2 Decrease Volume / -
3 ON / OFF
4 Increase Volume / +
5 Menu / Enter

OSD Settings

- Press the MENU-button to activate the OSD window.

- Press+ or - to navigate through the functions. Once the desired function is highlighted, press the MENU-button to activate it. If the function selected has a sub-menu, press or again to navigate through the sub-menu functions. Once the desired function is highlighted, press MENU-button to activate it.

- Press+ or - to change the settings of the selected function. To exit and save, select the exit function. If you want to adjust any other function, repeat steps 2-3.

- OSD Lock Function: To lock the OSD, press and hold the Menu button while the monitor is off and then press power button to turn the monitor on. To un-lock the OSD - press and hold the Menu button while the monitor is off and then press power button to turn the monitor on.

- Auto configure hot key: When the OSD is closed, press Auto button will be auto configure hot key function .

```
                    Luminance

   Contrast        [=====        ]   50

   Brightness      [===          ]   50

   ECO          ◄  Standard  ►

   Gamma        ◄  Gamma1  ►

Exit: AUTO +/-: LEFT/RIGHT ENTER: MENU
```

DCB Adjustment

 Dynamic Color Boost

What is DCB?

Dynamic Color Boost (DCB) is an advanced color adjustment technology. Through analyzing RGB signals, DCB creates more vivid and natural images to suit various color environment needs. DCB has two types of color enhancers: "Color Boost" and "Picture Boost" .

RGB Signal Input ➡ DCC Signal Analysis ➡ ICM - Color Adjustment ➡ Digital Signal Output ➡ Panel Display

DCC: Dynamic color control
ICM: Intelligent color management

1) How to use Color Boost?

Five color-enhancement settings: To accommodate various display needs, Color Boost also offers 5 different color enhancement modes: Full Enhance, Natural Skin, Green Field, Sky Blue, and Auto-Detect. Please go to the fourth icon labeled "Color Boost" in the OSD menu and select one of the five settings you desire to be turned on.

Full Enhance: When "Full Enhance" is turned on, the color saturation of the entire screen is fully enriched, thus all colors become more vibrant.

Nature Skin: When "Natural Skin" is turned on, the red and yellow colors are enriched automatically, thus presents human skin with more natural and truer colors. "Natural Skin" setting is ideal for viewing human portrait and detailed skin texture.

OFF   ON

Green Field: When "Green Field" is turned on, the green color is enriched so that football field and mountain landscape would look more natural and fresh. "Green Field" setting is ideal for watching mountain scenery and outdoor sports.

ON   OFF

Sky Blue: When"Sky Blue" is turned on, the color blue is being fine-tuned so that the sky or ocean landscape will look more vivid and in-depth. "Sky Blue" setting is ideal for viewing sky and ocean images.


Auto Detect: When "Auto Detect" is turned on, every pigment will be detected and self-adjusted to render a lively picture.

Demo: Screen divided into two for demonstration purposes.

2) How to use Picture Boost?

Users can change the color settings of a self-selected zone on the screen. The size and position of the selected zone can also be adjusted. "Picture Boost" is located in the fifth icon labeled "Picture Boost" in the OSD menu. Turn on "Bright Frame" to select a zone on the screen to be enhanced. Please note when adjust or turn on any one of the DCB features, the rest of color settings including DCR will be disabled or return to default.
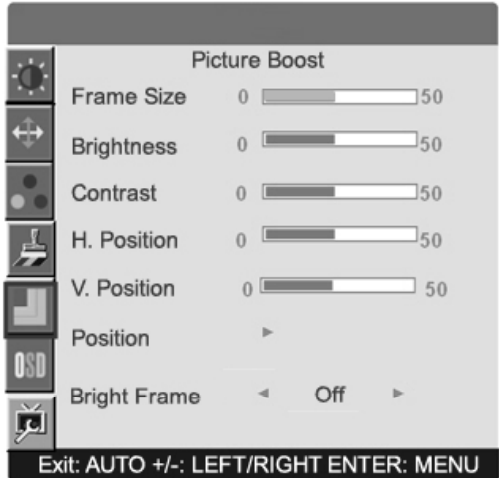
Disclaimer: DCB aftereffects are subject to the resolution and quality of the display content, hence may look different than the above illustrations.

Image Adjustment

	Luminance	Adjust Range	Description
	Brightness	0-100	Backlight Adjustment
	Contrast	0-100	Constrast from Digital-register
	Eco	Standard	Standard Mode
		Text	Text Mode
		Internet	Internet Mode
		Game	Game Mode
		Movie	Movie Mode
		Esports	Sports Mode
	Gamma	Gamma1	Adjust Gamma1
		Gamma2	Adjust Gamma2
		Gamma3	Adjust Gamma3
	Image Setup		
	Clock	0-100	Adjust picture Clock to reduce Vertical-Line noise
	Focus	0-100	Adjust Picture Phase to reduce Horizontal-Line noise
	H-Position	0-100	Adjust the horizontal position of the picture
	V-Position	0-100	Adjust the vertical position of the picture
	Color Temperature		
	Warm	6500K	Recall Warm Color Temperature from EEPROM
	Normal	7300K	Recall Normal ColorTemperature from EEPROM
	Cool	9300K	Recall Cool Color Temperature from EEPROM
	sRGB		Recall SRGB Color Temperature from EEPROM
	User	User-B	Blue Gain from Digital-register
		User-G	Green Gain Digital-register
		User-R	Red Gain from Digital-register
		User-Y	Yellow Gain from Digital-register
		User-C	Cyan Gain from Digital-register
		User-M	Magenta Gain from Digital-register
	Color Boost		
	Full Enhance	On or Off	Disable or Enable Full Enhance Mode
	Nature Skin	On or Off	Disable or Enable Nature Skin Mode
	Green Field	On or Off	Disable or Enable Green Green Field Mode
	Sky-blue	On or Off	Disable or Enable Sky-blue Mode
	AutoDetect	On or Off	Disable or Enable AutoDetect Mode
	Demo	On or Off	Disable or Enable Demo Mode
	Picture Boost		
	Frame Size	14-100	Adjust Frame size
	Brightness	0-100	Adjust Frame Brightness Contrast
	Contrast	0-100	Adjust Frame Contrast
	Hue	0-100	Adjust Frame Hue Saturacion
	Saturation	0-100	Adjust Frame Saturation Position
	Position	H. Position	Adjust Frame horizontal Position
		V. Position	Adjust Frame vertical Position
	Bright Frame	On or Off	Disable or Enable Bright Frame
	OSD Setup		
	V. Position	0-100	Adjust the Vertical position of OSD
	H. Position	0-100	Adjust the Horizontal position of OSD
	Timeout	0-100	Adjust the OSD Timeout
	Language		Select the OSD language
	Extra		
	Input Select	Analog	Select Analog Signal Source as Input
		Digital	Select Digital Signal Source as Input
	Auto Configure	Yes or No	Auto adjust the picture to default
	DDC/CI	Yes or No	Turn ON/OFF DDC/CI support
	Reset	Yes or No	Reset the menu to default
	Information		Show the information of the main image and sub-image source

Notes:
  1)If the product has only one signal input, the item of "Input Select" is disable to adjust.

LED Indicators

Status	LED Color
Full Power Mode	Green or Blue
Active-off Mode	Orange or red

Problems and Solutions

Problem and Questions	Possible Solutions
Power LED is Not ON	• Make sure the power button is ON and the Power Cord is properly connect to a grounded power outlet and to the monitor
No Plug & Play	• In order for the Plug & Play feature of the monitor to work, you need a Plug & Play compatible computer & video card. Check with your computer manufacturer. Also check the monitor's video cable and make sure none of the pins are bent • Make sure the Monitor's Drivers are installed
Picture is Fuzzy and has Ghosting Shadowing Problem	• Adjust the Contrast and Brightness Controls • Make sure you are not using an extension cable or switch box. We recommend plugging the monitor directly to the video card output connector on the back of your computer
Picture Bounces, Flickers or Wave Pattern is Present in the Picture	• Move electrical devices that may cause electrical interference as far away from the monitor as possible • Use the maximum refresh rate your monitor is capable of at the resolution your are using
Monitor is Stuck in Active Off-Mode	• The computer Power Switch should be in the ON posiiton • The computer Video Card should be snugly seated in its slot • Make sure the monitor's video cable is properly connected to the computer • Inspect the monitor's video cable and make sure none of the pins are bent • Make sure your computer is operaional by hitting the CAPS LOCK key on the keyboard while observing the CAPS LOCK LED. The LED shuould either turn ON or OFF after hitting the CAPS LOCK key
Missing one of the primary colors (RED, GREEN or BLUE)	• Inspect the monitor's video cable and make sure that none of the pins are bent • Make sure the monitor's video cable is properly connected to the computer
Screen image is not centerred or sized properly	• Adjust H-Position and V-Position or press hot-key (AUTO)
Picture has color defects (while does not look white)	• Adjust RGB color or select color temperature
Horizontal or Vertical disturbances on the screen	• Use win 95/98/2000/ME/XP shut-down mode Adjust CLOCK and FOCUS or perform hot-key (AUTO-key)

Specifications

|		
LCD Panel	Model Number	D1960wA
	Driving system	TFT Color LCD
	Viewable Image Size	470mm diagonal
	Pixel Pitch	0.3mm (H) x 0.3mm (V)
	Vídeo	R, G, B Analog Interface & Digital Interface
	Separate Sync.	H/V TTL
	Display Color	16.7M Colors
	Dot Clock	85.5 MHz
Resolution	Horizontal scan range	30 kHz - 80 kHz
	Horizontal scan Size (Maximum)	409.8mm
	Vertical scan range	55 Hz - 75 Hz
	Vertical scan Size (Maximum)	230.4mm
	Optimal present resolution	1366 x 768 (60 Hz)
	Highest preset resolution	1366 x 768 (60 Hz)
	Plug & Play	VESA DDC2B/CI
	Input Connector	D-Sub 15 pin & DVI-D
	Input Video Signal	Analog: 0,7 V p-p (standard), 75 OHM, Positive & DVI-D Digital Interface (TMDS)
	Power Source	100 ~ 240 VAC, 50/60 Hz
	Power Consumption	Active < 25 W
		Standby < 0.6 W
Physical Characteristics	Connector Type	15-pin Mini D-Sub & DVI-D
	Signal Cable Type	Detachable
	Speakers	1.5Wx 2
	Dimensions & Weight:	
	Height (with base)	348mm
	Width	449.4mm
	Depth	182.5mm
	Weight (monitor only)	3.90 kg
	Weight (with packaging)	5.10 kg
Enviromental	Temperature:	
	Operating	0° to 40°
	Non-Operating	-20° to 60°
	Humidity:	
	Operating	10% to 85% (non-condensing)
	Non-Operating	5% to 80% (non-condensing)
	Altitude:	
	Operating	0~ 3000m (0~ 10000 ft)
	Non-Operating	0~ 5000m (0~ 15000 ft)

EPA ENERGY STAR ®

ENERGY STAR® is a U.S registered mark. As an ENERGY STAR® Partner, our company has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

Preset Display Modes

STAND	RESOLUTION	HORIZONTAL FREQUENCY (kHZ)	VERTICAL FREQUENCY (HZ)
VGA	640 x 480 @60Hz	31.469	59.94
VGA	640 x 480 @67Hz	35	66.667
VGA	640 x 480 @72Hz	37.861	72.809
VGA	640 x 480 @75Hz	37.5	75
Dos-mode	720 x 400 @70Hz	31.469	70.087
Dos-mode	640 x 400 @70Hz	31.469	70.087
SVGA	800 x 600 @56Hz	35.156	56.25
SVGA	800 x 600 @60Hz	37.879	60.317
SVGA	800 x 600 @72Hz	48.077	72.188
SVGA	800 x 600 @75Hz	46.875	75
Mac-mode	832 x 624 @75Hz	49.725	74.551
XGA	1024 x 768 @60Hz	48.363	60.004
XGA	1024 x 768 @70Hz	56.476	70.069
XGA	1024 x 768 @72Hz	57.5	72.074
XGA	1024 x 768 @75Hz	60.023	75.029
XGA	1024 x 768 @75Hz	60.241	74.927
WSXGA	1360 x 768 @60Hz	47.712	60.015
WSXGA	1366 x 768 @60Hz	47.765	59.856

Pin Assignments

D-Sub pins
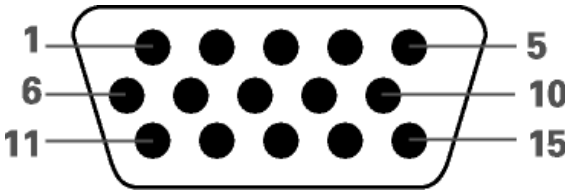
Pin Number	15-Pin Side of the Signal Cable
1	Video - Red
2	Video - Green
3	Video - Blue
4	Ground
5	Detect Cable
6	GND-R
7	GND-G
8	GND-B
9	+5V
10	Ground
11	Ground
12	DDC-Serial data
13	H-sync
14	V-sync
15	DDC-Serial clock

DVI-D pins
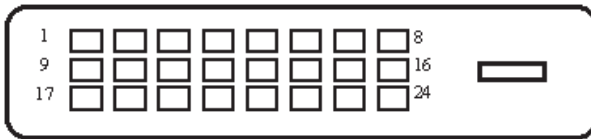
Pin No.	Signal Name	Pin No.	Signal Name	Pin No.	Signal Name
1	TMDS Data 2-	9	TMDS Data 1-	17	TMDS Data 0-
2	TMDS Data 2+	10	TMDS Data 1+	18	TMDS Data 0+
3	TMDS Data 2/4 Shield	11	TMDS Data 1/3 Shield	19	TMDS Data 0/5 Shield
4	TMDS Data 4-	12	TMDS Data 3-	20	TMDS Data 5-
5	TMDS Data 4+	13	TMDS Data 3+	21	TMDS Data 5+
6	DDC Clock	14	+5V Power	22	TMDS Clock Shield
7	DDC Data	15	Ground (for +5V)	23	TMDS Clock +
8	N.C.	16	Hot Plug Detect	24	TMDS Clock -

Plug and Play

Plug & Play DDC2B Feature

This monitor is equipped with VESA DDC2B capabilities accordiling to the VESA DDC STANDARD. It allows the monitor to inform the host system of its identity and, depending on the level of DDC used, communicate additional information about its display capabilities.

The DDC2B ia a bi-directional data channel based on the I2C protocol. The host can request EDID information over the DDC2B channel.